HyperCAM Delta

3Brain

Key Features & Benefits

24 well HD-MEA upgradable to 96 well
– To fit your expanding research needs

Simultaneous recording of ALL wells, and ALL electrodes
– To enable fast, accurate data collection from every experiment

Integrated environmental chamber
– To ensure optimal conditions for reliable, reproducible results

High-throughput research
- To accelerate your research with enhanced scalability

User-friendly analysis tools
- To save you time and to allow you to create useful data with ease

Seamless integration with automation systems
- To enhance your labs' efficiency

Why the HyperCAM Delta

The HyperCAM Delta coupled with CorePlate™ offers advantages in two critical areas:

High-density, multi well capabilities.

The high-density properties reduce the number of intra-plate replicates needed to achieve stable results compared to standard MEA platforms, increasing data output from single experiments and lowering overall costs.

Simultaneous recording from ALL wells and ALL electrodes.

The first 24-well HD-MEA system with 1024 electrodes per well, capable of recording from ALL wells and ALL electrodes simultaneously, saving hours of experimental preparation and recording compared to other multi well HD-MEA systems.

Applications

The HyperCAM Delta is designed for a wide range of applications.

Record from:

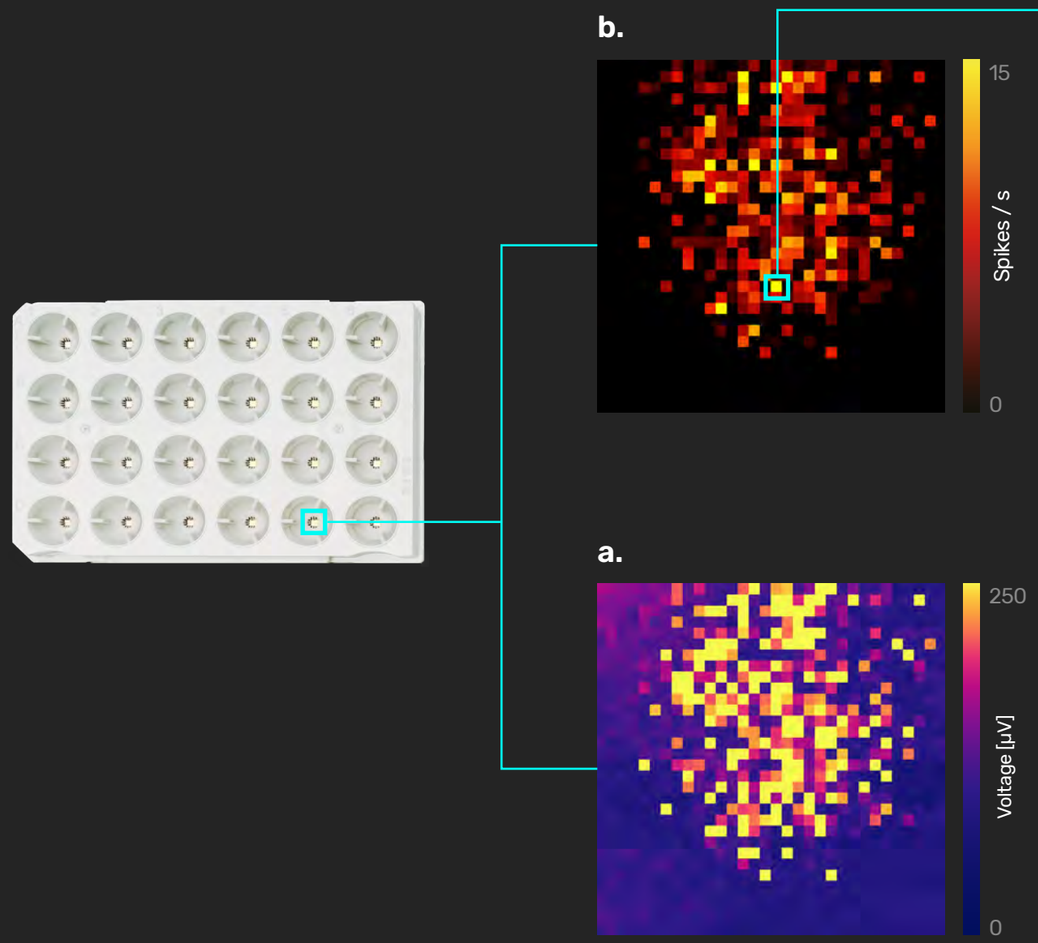
- Primary cultures
- HiPSC-derived cultures
- Spheroids
- Organoids

To perform:

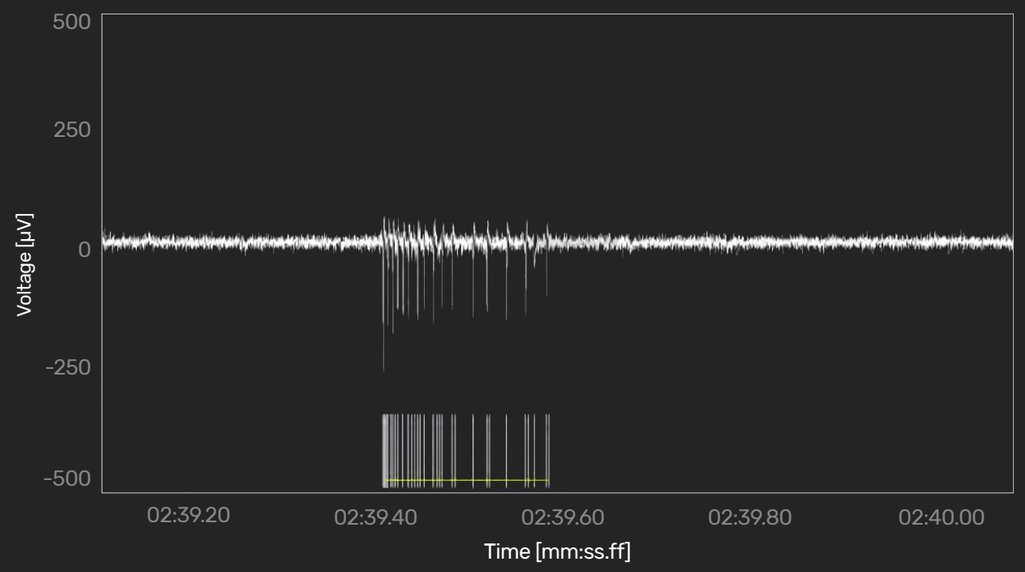
- Toxicology assays
- Disease model characterization
- Drug screening
- Safety pharmacology

Data examples

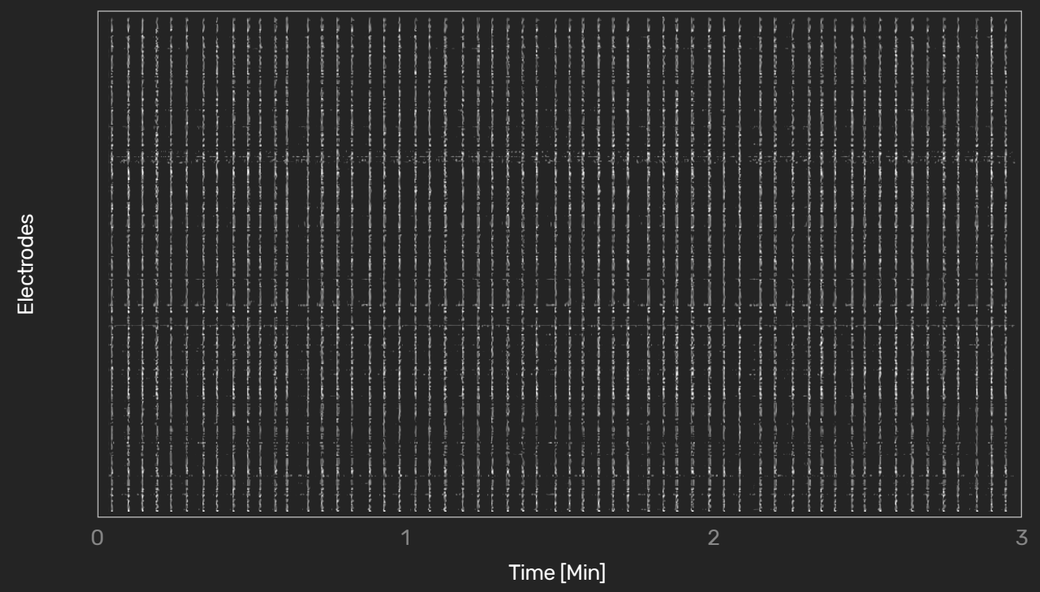
Visualize network activity instantly from ALL wells and ALL electrodes.



Rat Hippocampal Culture 17 DIV showing **a.** Raw signal map (change in µV in a 100ms window). **b.** Activity map showing Mean Firing Rate (spikes / s),



Raw signal trace showing burst activity, with spikes identified below (white vertical lines) and a detected burst (horizontal yellow line).

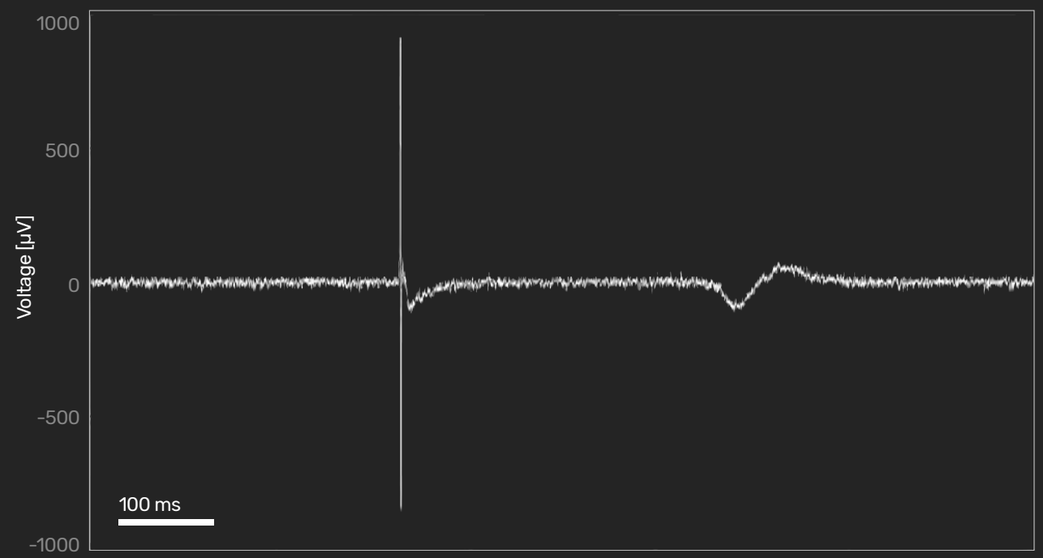


Raster Plot showing synchronized activity throughout a Rat Hippocampal Culture at 17 DIV.

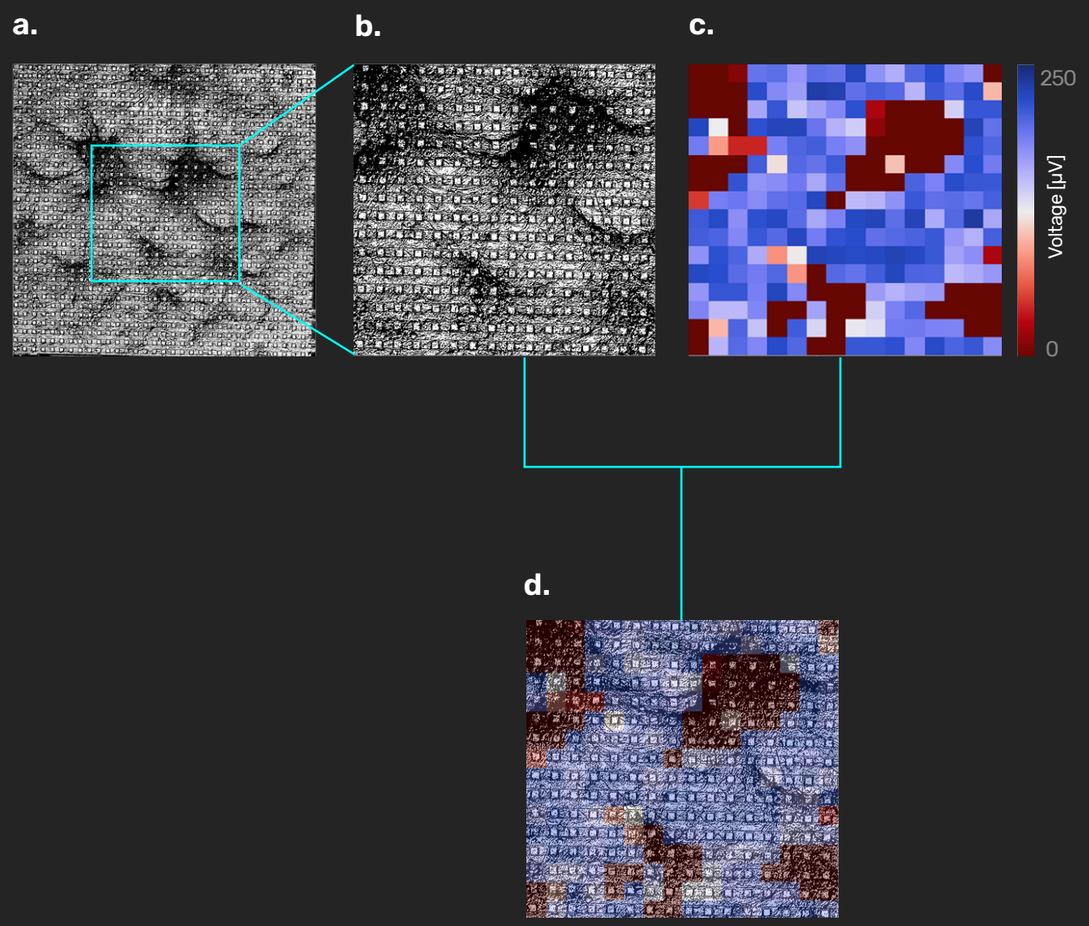
Software

Our easy-to-use interface supports advanced analysis with over 100 metrics for:

- Neuronal activity: Comprehensive metrics for in-depth analysis.
- Neuronal network activity: Includes advanced tools such as Center of Activity Trajectory (CAT) and Connectivity Mapping.
- Cardiac Function: Detailed metrics for analyzing cardiac activity.



Raw trace from a cardiomyocyte culture DIV9 displaying a clear initial QRS complex followed by a T wave.



a. Rat Hippocampal Culture at 11 DIV over CorePlate™. **b.** Magnification of a central area of the culture. **c.** Activity map measured by changes in µV in a 100ms window. **d.** Overlay of the activity map over the culture image.

Technical Specifications

HyperCAM Delta:

Dimensions: 530 x 290 x 350mm **(W x D x H)**

Environmental Chamber: Built-in

24-Well CorePlate™:

Number of Electrodes per Plate: 24,576

Number of Electrodes per Well: 1,024

Sampling Frequency: 10 kHz

Electrode Size: 20 x 20µm

Electrode Pitch: 50µm

Active Area Dimensions: 1.57mm x 1.57mm

Well Volume: ~1mL

Want to know more?

Visit our website to find out about our other **CorePlate™** supporting single & multi well platforms.

Schedule a meeting with one of our scientists to **learn more about our technology.**

DESIGNED IN SWITZERLAND. MADE IN EUROPE.

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